



PDF/SOLUTIONS™

Investor Presentation

June 2020

John Kibarian, President & CEO

Kimon Michaels, Executive VP, Products and Solutions, Co-Founder

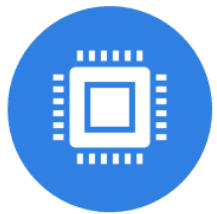
Adnan Raza, Executive VP, Finance & CFO

This presentation may contain forward-looking statements regarding projected business performance, operating results, financial condition and other aspects of the Company, expressed by such language as "expected," "anticipated," "projected" and "forecasted." Please be advised that such statements are estimates only and there is no assurance that the results stated or implied by forward-looking statements will actually be realized by the Company. Forward-looking statements may be based on management assumptions that prove to be wrong. The Company and its business are subject to substantial risks and potential events beyond its control that could cause material differences between predicted results and actual results, including the Company incurring operating losses and experiencing unexpected material adverse events. Forward-looking statements are based on current expectations and assumptions, which are subject to risks and uncertainties that may cause results to differ materially from those expressed or implied in the forward-looking statements. We undertake no obligation to update or revise publicly any forward-looking statements, whether because of new information, future events or otherwise. For additional information concerning factors that could cause actual results and events to differ materially from those projected herein, please refer to our most recent 10-K, 10-Q and 8-K reports.

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PDF Solutions Overview

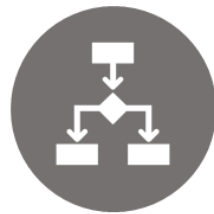
- PDF is an analytics company that provides products, services, and systems designed to improve process efficiency and product reliability for the semiconductor supply chain
- PDF uniquely provides:
 - Products and services for the end-to-end data analytics needs of the semiconductor value chain
 - Differentiated data obtained during manufacturing, test, and in-field use from IP integrated into semiconductor devices



IC Design



Fab



Sort



Assembly



Test



System



Building a Platform for Success

GROWTH

- Analytics are 60% of total revenues in TTM Q1 2020 vs 45% in CY 2018
- Analytics revenue CAGR of 26% from 2018 through TTM Q1 2020

PROFITABILITY

- 60% GAAP and 65% non-GAAP gross margins for Q1 2020
- Total company gross margins continue to move towards 70%+ target model

VISIBILITY

- 91% analytics customer retention rate during TTM Q1 2020 vs CY 2018
- Average Analytics revenue per customer has grown 25% from \$353K in CY 2018 to \$440K in TTM Q1 2020

DIVERSIFICATION

- Customer concentration much reduced; largest customer 29% of revenue in TTM Q1 2020 vs 37% in CY 2018
- No foreign country accounts for more than 20% of revenue in TTM Q1 2020

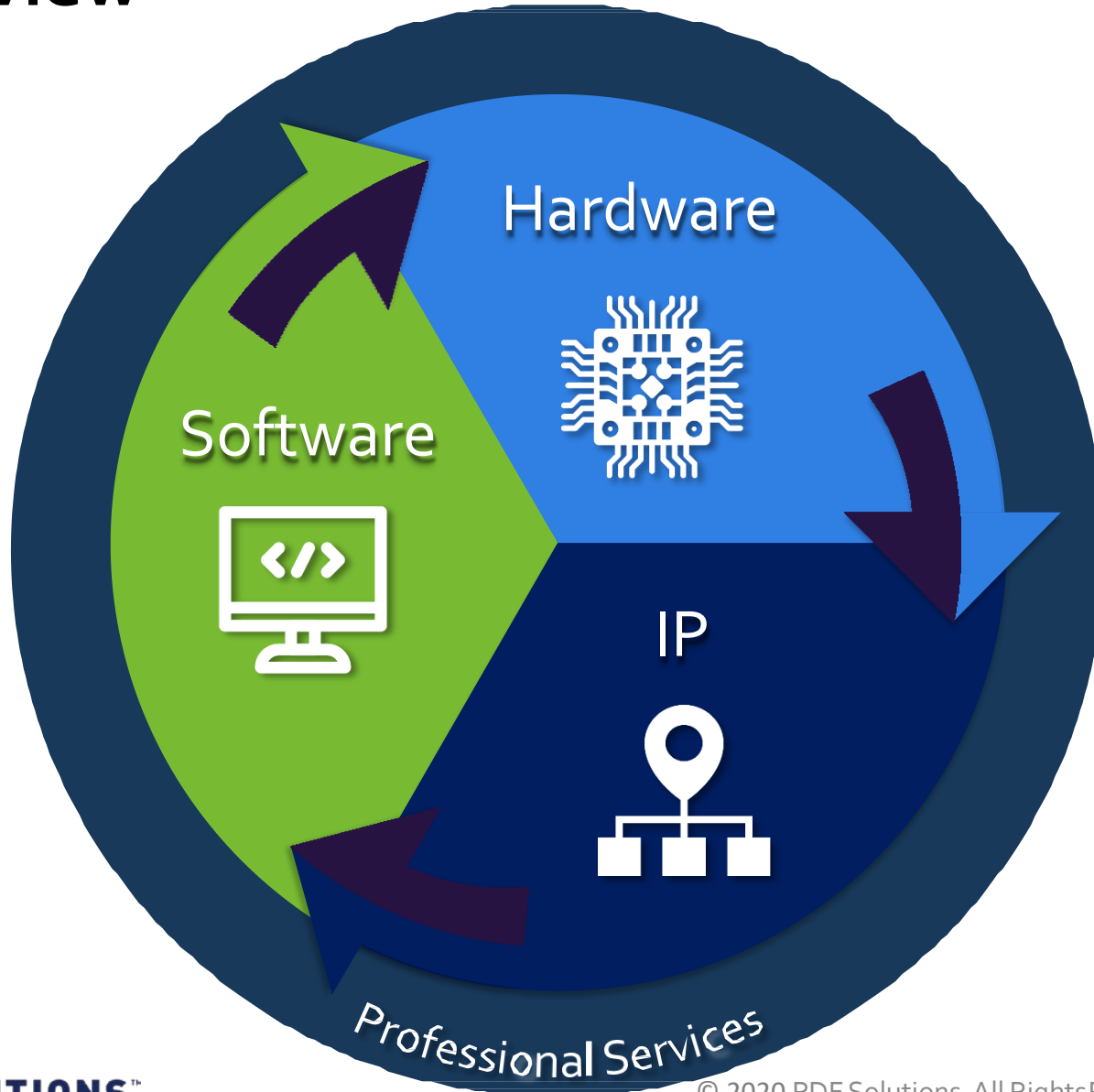
STRENGTH

- \$100.4 million cash balance at end of Q1 2020; No debt
- Non-GAAP gross margin improvement by ~10% since 2018

INVESTMENT

- Ongoing commitment to invest in Engineering Technology and Sales & Marketing
- Expanded technology offerings through strategic acquisitions
- Opportunistic share buybacks; \$14.9 million since 2018

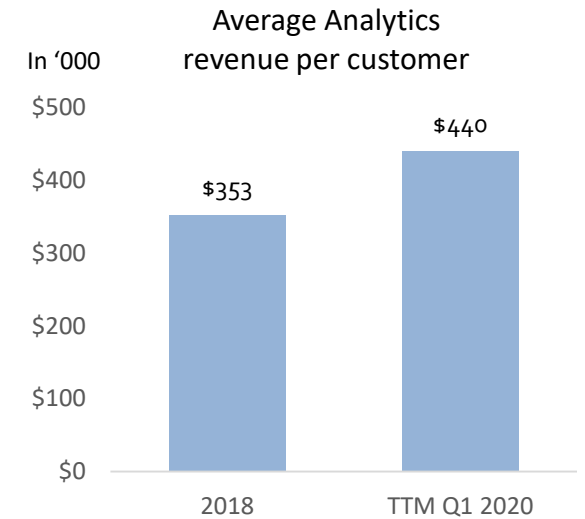
Overview



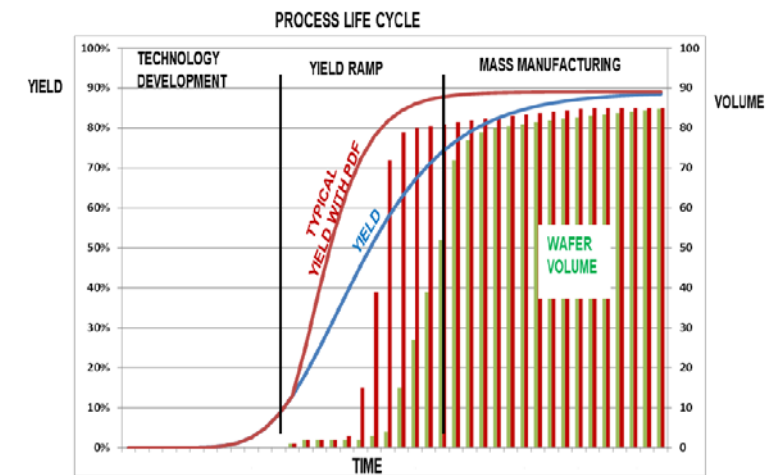
- **Exensio® Analytics Platform**
Common data model for integrated, aligned data from all sources
- **eProbe® & pdFasTest® Systems**
Electrical measurement hardware
- **CV® infrastructure, CVCORE™ & DFI™ Systems**
(Design for Inspection)
Characterization, quality and reliability
- **Professional Services**
Engineering, consulting, and managed data

PDF Business Models

- PDF has a long history of providing solutions combining advanced analytics and differentiated data
- PDF has two business models to capture the value of our products, services, and systems
- Subscription model: when value is data
 - Analytics is primarily subscription based and is the growth driver for PDF
 - Subscription model enables PDF to be compensated based on continuous usage
- Gainshare model: when value is time to volume
 - In competitive foundry market, time to mass production is critical
 - The variable fee royalty model enables PDF to be compensated based on measurable value delivered



Gainshare model value

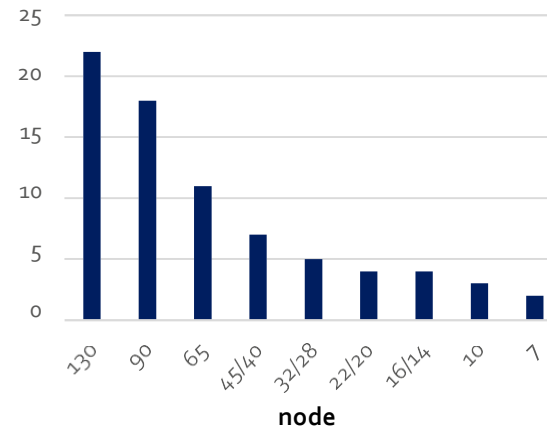


Value Shifting to Mass Production

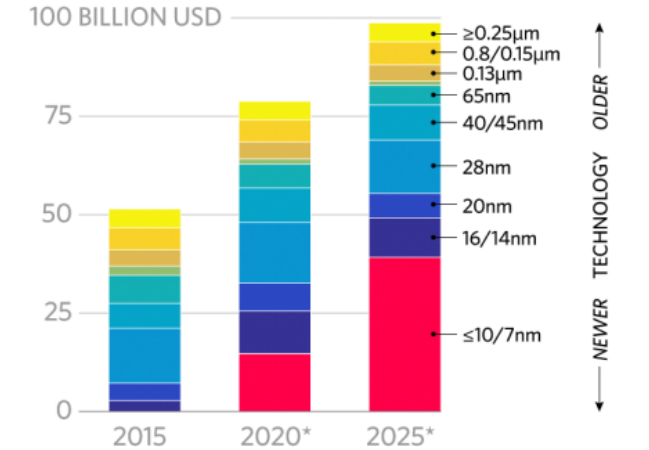


www.techrepublic.com/article/moores-law-is-dead-three-predictions-about-the-computers-of-tomorrow

Foundries on Leading Edge



Foundry Market By Node



Copyright Stratfor 2019

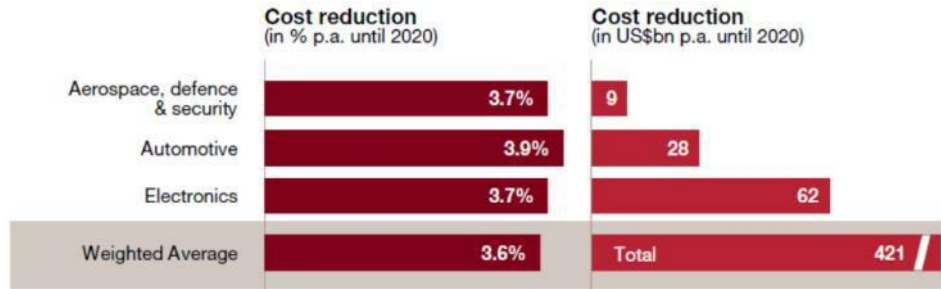
○ Trends:

- Moore's Law is slowing down, and foundry business is consolidating due to process complexity
- Percentage of foundry market in finFET nodes expected to continue to grow

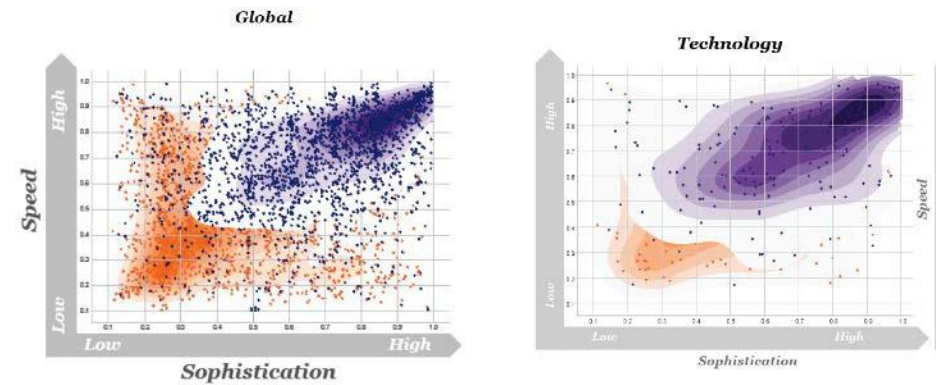
○ Implications:

- Increased value in mass production **continuous improvement** vs. **time to market**
- Financial risk shifting away from foundry to fabless & system companies

Data and Analytics Growing in Importance



High-tech sectors will see a greater percentage of cost reductions than average and represent nearly a fourth of the total revenue reductions tracked



Companies moving to **faster decision speed** with **greater sophistication**, especially in tech. sector



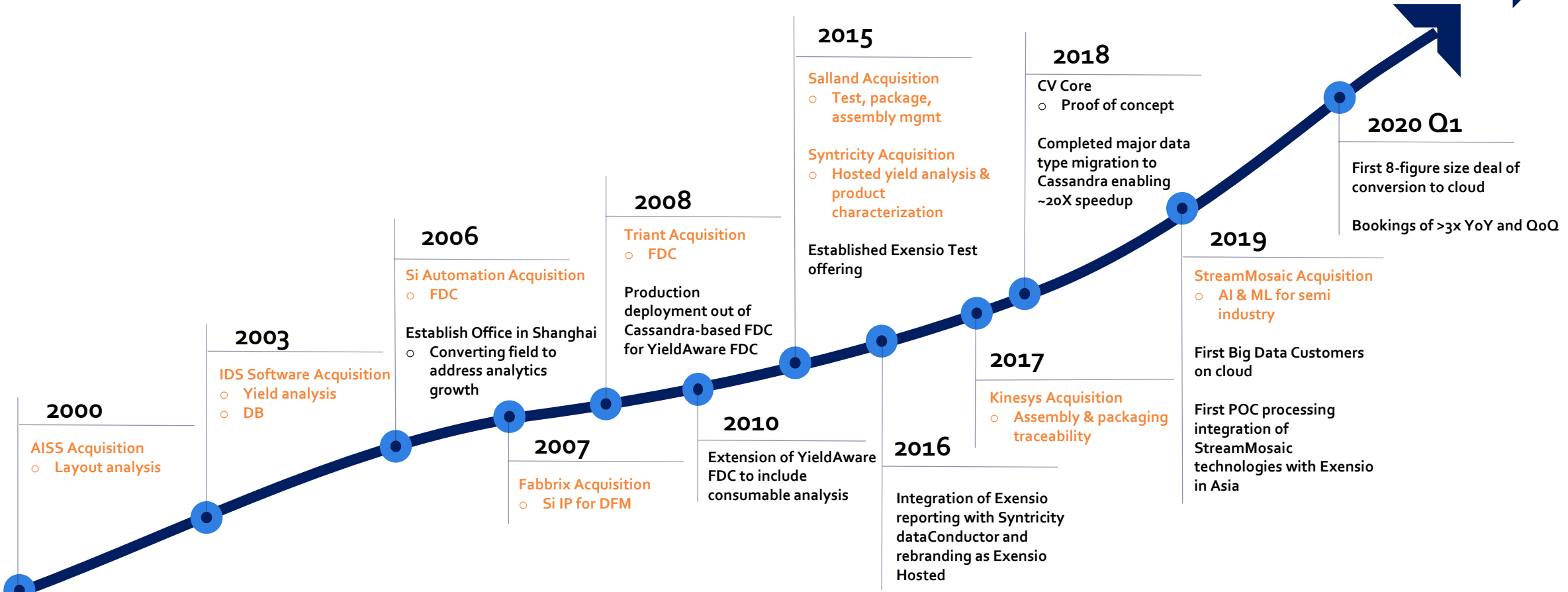
Only half of companies today place a high importance on data analytics, but 83% expect that it will be a core competence in five years



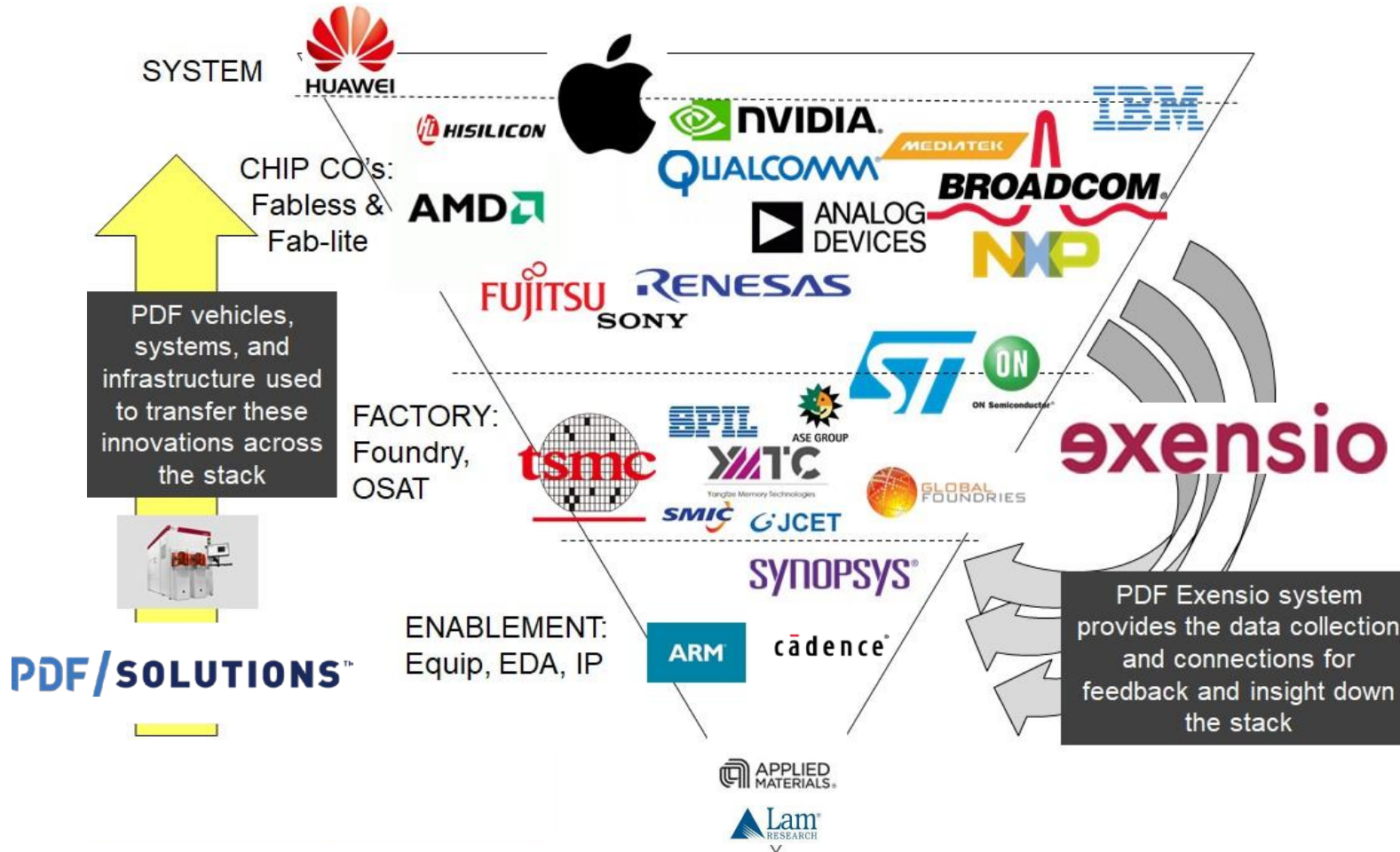
Number of companies with "highly digitized" functional groups expected to double over next 5 years

Source: PwC – Industry 4.0 Building your digital enterprise

PDF Acquisitions and Product Releases Expanded Our Scope and TAM



Today PDF Bridges the Supply Chain Stack



- PDF analytics and data implemented broadly across the supply chain
- PDF continues to increase our established relationships with critical industry members
- PDF is the only commercial analytics-focused provider with breadth and scale required by our customers

Representative industry participants; not indicative of actual customers. Logos are the property of the respective trademark owners.

Customer Base Spans Fabless, Fab, OSAT, and System



119 revenue generating customers in **29** countries through TTM Q1 2020



#1 commercial solution for mfg yield and control with large cloud customer base



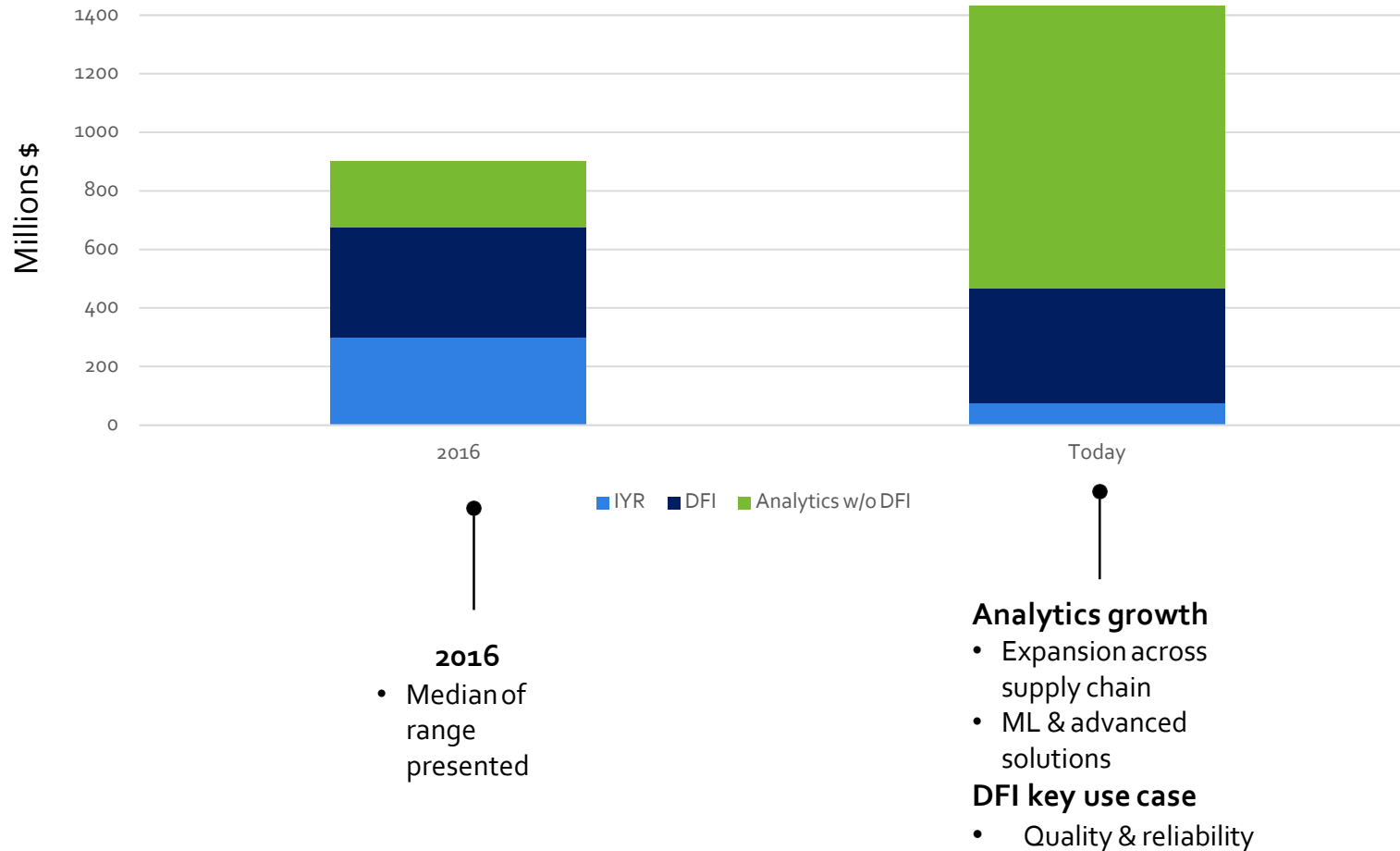
#2 and **fastest growing** commercial provider in mfg test operations leveraging DEX network



Leading commercial provider die traceability through the supply chain



PDF Solutions – Total Available Market

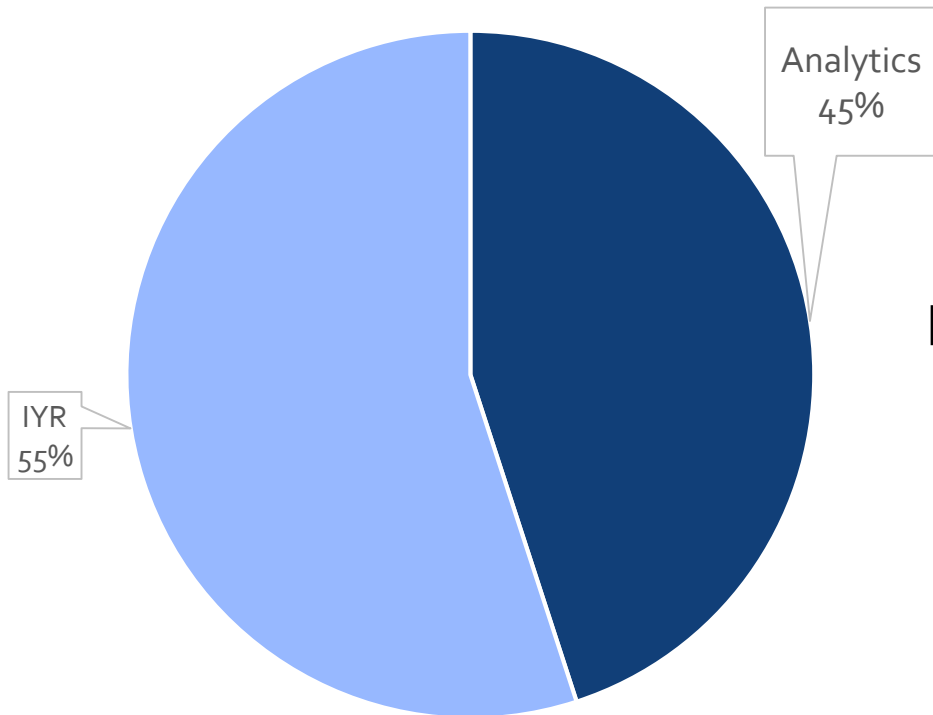


Source: PDF Solutions estimates

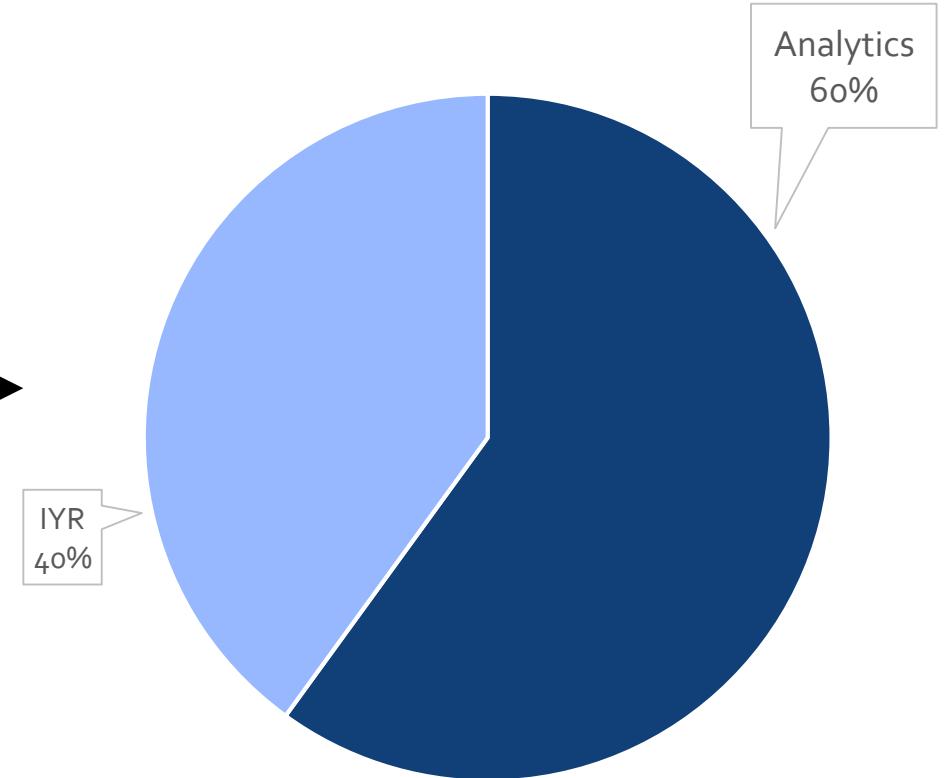
- Today, PDF provides the only commercial, supply-chain-wide analytics products, services, and systems
- Growth in analytics TAM being driven from
 - Move to cloud and increased data volumes
 - Additional opportunities in fables, OSAT, system analytics
- DFI™ TAM growth driven by
 - Need for electrical data for quality and reliability
 - Observability limits of conventional inspection

Revenue Transition to Analytics

CY 2018

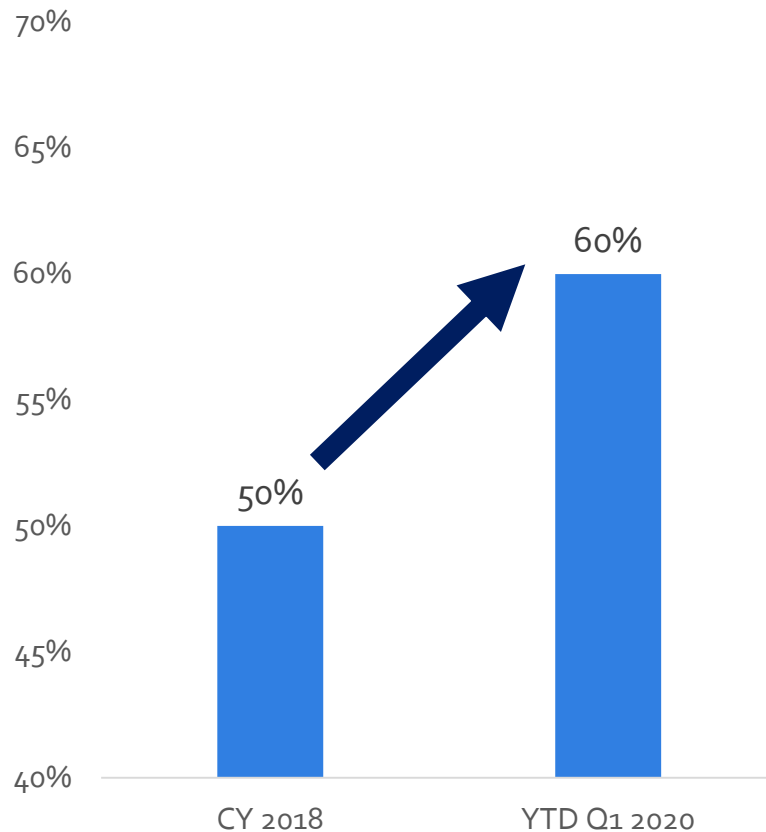


TTM Q1 2020

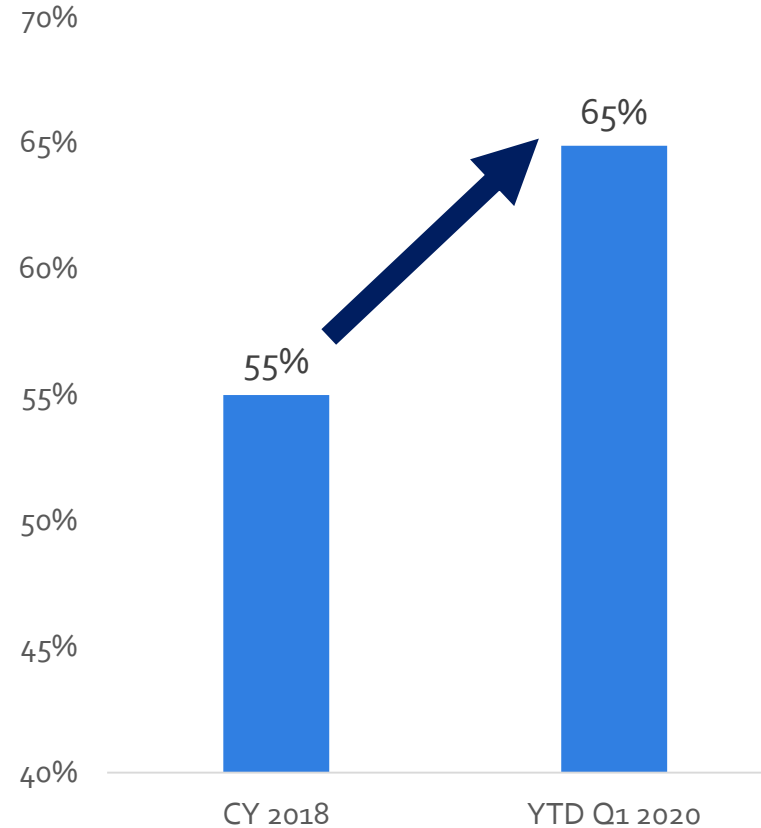


Gross Margins - Improved by 10%

GAAP



Non-GAAP



- Progressing towards our long term target Non-GAAP gross margin of 70%+
- First monetization of technology was IYR with associated royalties
- Second wave of monetization consists of growing the Analytics business
- Analytics customers transitioning to subscription and cloud over time

Analytics Revenue

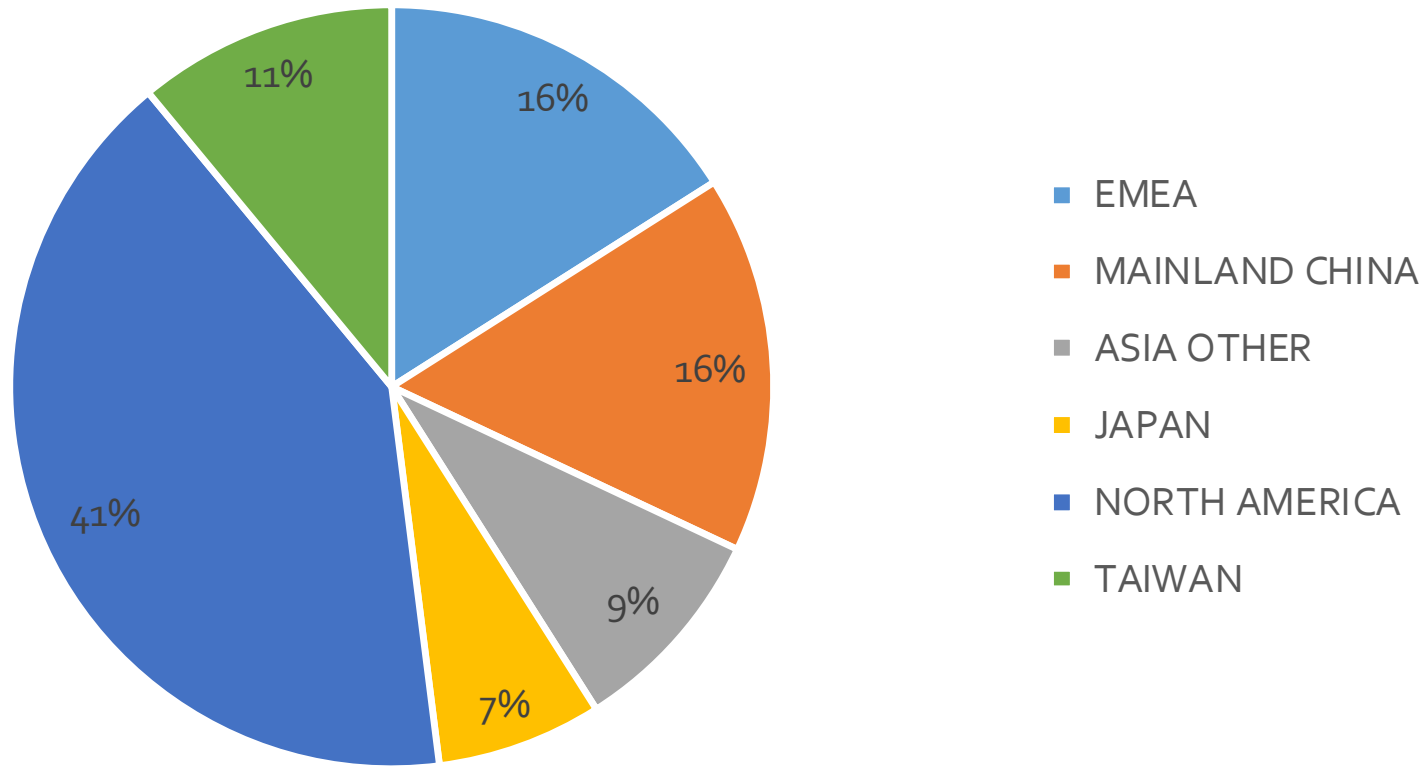
GROWTH



- First 8-figure size deal of conversion to cloud in Q1 2020
- Q1 2020 bookings of >3x YoY and QoQ
- CAGR of 26% from 2018 to TTM Q1 2020
- Average Analytics revenue per customer has grown 25% from \$353K in 2018 to \$440K in TTM Q1 2020

Global Geographic Distribution

TTM Q1 2020



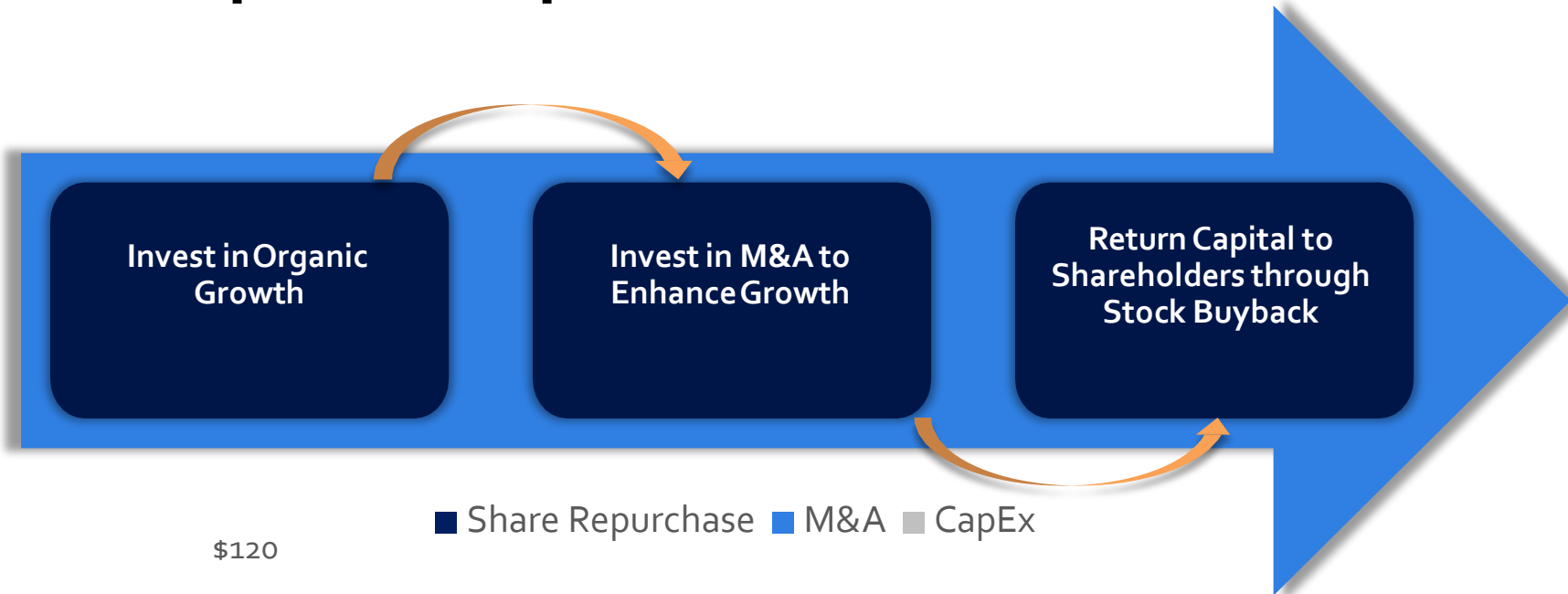
- Globally diverse geographic distribution
- No foreign country accounts for more than 20%
- US largest market at 41% of revenues

Balance Sheet Strength

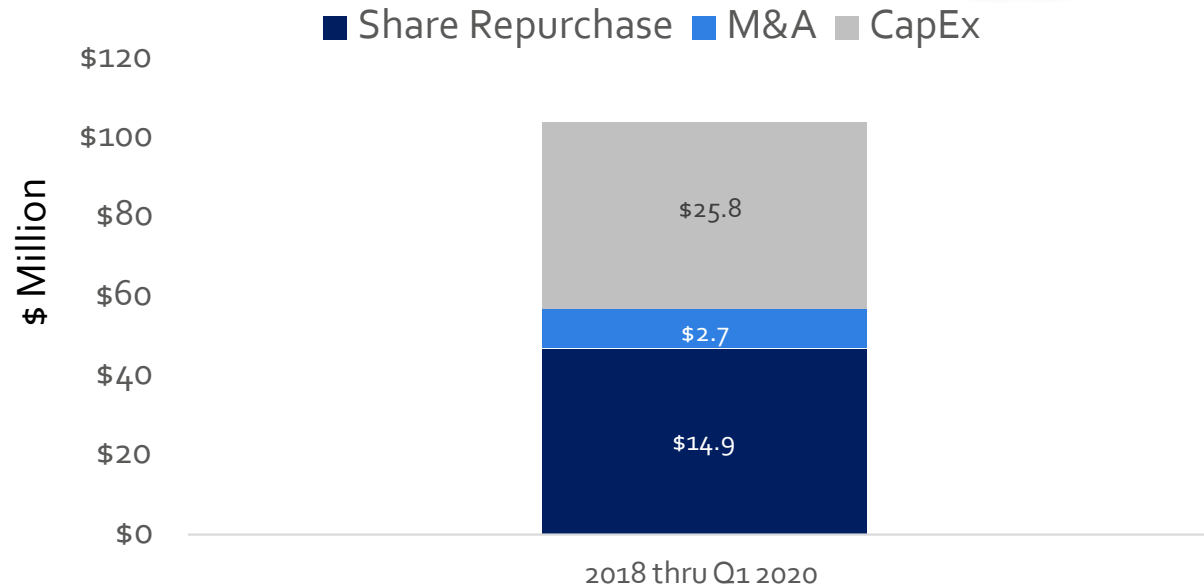
	(\$ Million)
○ Cash and cash equivalents (end of Q1 2020)	\$100.4
○ Debt	\$0

- Existing balance sheet strength provides foundation for investment in growth of analytics business both organically and inorganically
- Cash increased by \$4.3m from 2018
- Investments made in R&D, PP&E, M&A, S&M, and share buyback

Disciplined Capital Allocation



- Capex investments include DFI, CVi, IP, DEX network, and infrastructure
- Cash balance has increased while we
 - Invest in Capex
 - Make acquisitions
 - Return capital to shareholders through stock buyback

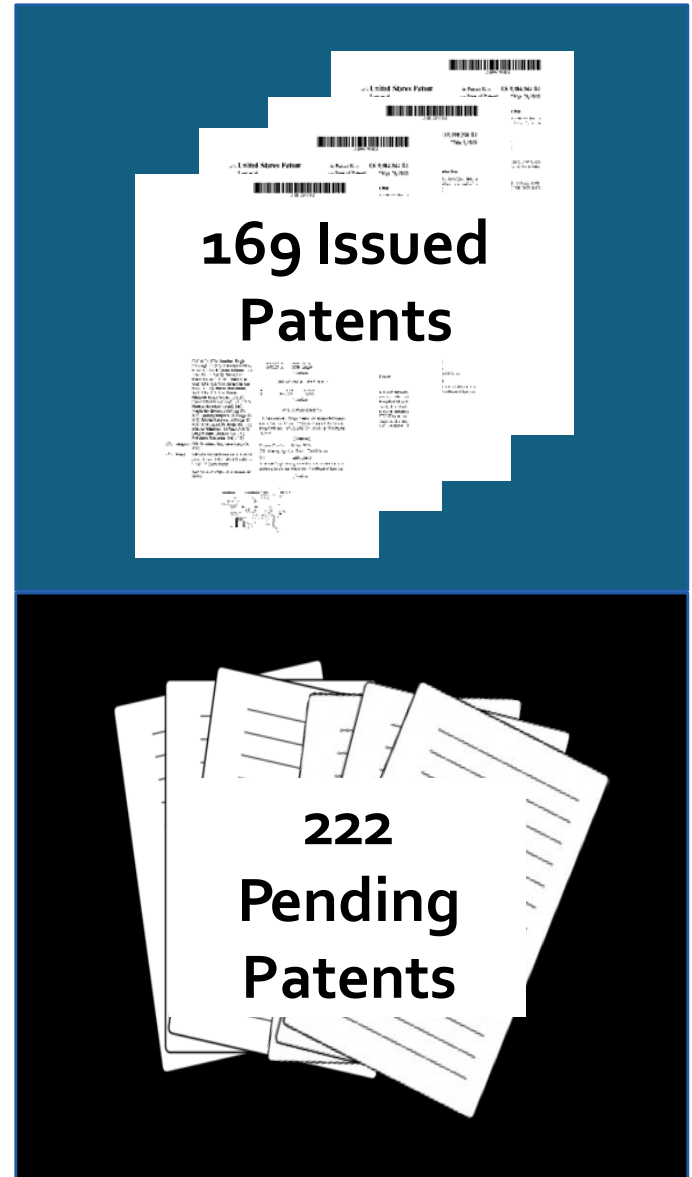


Long-Term Targets

	Target
Annual Analytics Revenue Growth	20%
Non-GAAP Gross Margins	>70%
Non-GAAP Operating Margin	20%

Investment Results in Strong Patent Position

- Our investments in analytics & differentiated data result in a strong and growing patent position
- Patents based on 28 years of know-how in semiconductor development and mass production
- Key patents in areas of:
 - Design for inspection and CV structures for advanced nodes
 - Electrical characterization
 - AI/ML technology



Summary



Thank You

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Financials - Appendix

Non-GAAP Presentation

In addition to providing results that are determined in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP), the Company also provides certain non-GAAP financial measures. Non-GAAP net income (loss) excludes the effects of non-recurring items (including adjustment to contingent consideration related to acquisition, restructuring charges and severance payments, and expenses related to an arbitration proceeding for a disputed contract with a customer), stock-based compensation expense, amortization of acquired technology and other acquired intangible assets, and their related income tax effects, as applicable, as well as adjustments for the non-cash portion of income taxes and tax impact of the CARES Act. These non-GAAP financial measures are used by management internally to measure the Company's profitability and performance. PDF Solutions' management believes that these non-GAAP measures provide useful supplemental measures to investors regarding the Company's ongoing operations in light of the fact that none of these categories of expense has a current effect on the future uses of cash (with the exception of certain non-recurring items) nor do they impact the generation of current or future revenues. These non-GAAP results should not be considered an alternative to, or a substitute for, GAAP financial information, and may be different from similarly titled non-GAAP measures used by other companies. In particular, these non-GAAP financial measures are not a substitute for GAAP measures of income or loss as a measure of performance, or to cash flows from operating, investing and financing activities as a measure of liquidity. Management uses these non-GAAP financial measures internally to measure profitability and performance; these non-GAAP measures are presented here to give investors an opportunity to see the Company's financial results as viewed by management. A detailed reconciliation of the adjustments made to comparable GAAP measures is included herein.

GAAP to Non-GAAP Income Reconciliation

in thousands (except share amounts, percent of revenue, and EPS)

	2018	2019	2020 YTD thru Q1
GAAP net income (loss)	\$ (7,716)	\$ (5,418)	\$ (528)
Adjustments to reconcile GAAP net income (loss) to non-GAAP net income (loss):			
Stock-based compensation expense	10,295	11,423	3,368
Impaired deferred costs	-	-	-
Previously impaired deferred costs	-	-	-
Amortization of acquired technology	574	574	144
Amortization of other acquired intangible assets	435	609	174
Restructuring charges and severance payments	907	92	4
Write-down in value of property and equipment	227	-	-
Acquisition costs & adjustment to contingent consideration related to acquisition	90	30	-
Legal arbitration/litigation *	-	-	101
Tax Impact of Adjustments	(1,992)	(2,785)	(3,404)
Non-GAAP net income (loss)	\$ 2,820	\$ 4,525	\$ (142)
GAAP net income (loss) per diluted share	(0.24)	(0.17)	(0.02)
Non-GAAP net income (loss) per diluted share	0.09	0.14	(0.00)
Shares used in diluted shares calculation (in millions)	32.5	33.1	33.6

* Represents the expenses related to an arbitration proceeding over a disputed contract with a customer, which expenses are expected to continue until the arbitration is resolved.

GAAP to Non-GAAP Gross Margin Reconciliation

in thousands

GAAP Gross Margin

Adjustments to reconcile GAAP gross margin (loss) to non-GAAP gross margin:

Stock-based compensation expense

Impaired deferred costs

Previously impaired deferred costs

Amortization of acquired technology

Restructuring charges and severance payments

Non-GAAP gross margin

	2018	2019	2020 YTD thru Q1
	\$ 42,992	\$ 52,112	\$ 12,671
	3,554	3,186	909
	-	-	-
	-	-	-
	574	574	144
	258	-	-
	\$ 47,378	\$ 55,872	\$ 13,723

Balance Sheet

<i>(\$ '000)</i>	Actual 2018	Actual 2019	Actual Q1 '20
Cash and short-term investments	\$96,089	\$97,605	\$100,385
Accounts receivable, net	29,332	33,208	28,002
Unbilled accounts receivable	22,238	7,332	9,362
Prepays and other current assets	9,562	9,320	11,628
Property, plant and equipment, net	35,681	40,798	41,009
Operating lease right-of-use assets	-	7,609	7,368
Other assets	33,003	43,561	41,604
TOTAL ASSETS	\$225,905	\$239,433	\$239,358
Accounts payable	\$2,454	\$7,636	\$4,828
Accrued liabilities	7,962	6,737	6,161
Operating lease liabilities - current portion	-	1,867	1,954
Deferred revenue and billing in excess of revenue	9,112	11,644	14,122
Non-current operating lease liabilities	-	7,677	7,310
Tax and other long-term liabilities	6,582	7,713	6,514
Total stockholders' equity	199,795	196,158	198,469
TOTAL LIABILITIES & EQUITY	\$225,905	\$239,433	\$239,358